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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/522,094	01/24/2005	Enrico Gerardus Albertus Linders	70059USPCT	9236
22847 7590 02/03/2009 SYNGENTA BIOTECHNOLOGY, INC. PATENT DEPARTMENT 3054 CORNWALLIS ROAD P.O. BOX 12257 RESEARCH TRIANGLE PARK, NC 27709-2257				
EXAMINER ROBINSON, KEITH O NEAL				
ART UNIT 1638		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/522,094

Applicant(s)

LINDERS ET AL.

Examiner

KEITH O. ROBINSON

Art Unit

1638

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 10, 11, 17-24, 27-33, 35, 41-43 and 46-54 is/are pending in the application.
- 4a) Of the above claim(s) 27-33, 35, 41-43 and 50 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10, 11, 17-24, 46-49 and 51-54 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action. Applicant's amendment of claims 1, 11 and 53, cancellation of claims 9, 12-16, 25, 26, 34, 36-40, 44 and 45 and withdrawal of claims 27-33, 35, 41-43 and 50, filed November 20, 2008, have been received and entered in full.

2. Claims 1-8, 10, 11, 17-24, 46-49 and 51-54 are under examination.

Claim Rejections - 35 USC § 112, second paragraph

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1, 11 and 53 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are broadly drawn to a *B. oleracea* plant resistant to multiple pathotypes of clubroot disease. It is unclear to which pathotypes of clubroot disease that the claimed plant is resistant. Clarification is required to more clearly define the metes and bounds of the claims.

Claim Rejections - 35 USC § 112, first paragraph – Written Description

5. Claims 1, 11 and 53 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably

convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claims are broadly drawn to any *B. oleracea* plant resistant to multiple pathotypes of clubroot disease, wherein the resistance is obtained from a clubroot resistant *B. rapa* plant and the resistance to clubroot is monogenic and dominant. There does not appear to be literal support in the specification or in the original claims for "multiple pathotypes". Accordingly, the claims are directed to NEW MATTER. Applicant is required to point to the basis of the phrase in the specification or to delete the phrase in reply to this Office action.

Response to Arguments

Claim Rejections - 35 USC § 112, first paragraph – Written Description

6. Claims 1-8, 10, 11, 17-24, 46-49 and 51-53 remain rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The rejection is maintained for the reasons of record as set forth on pages 2-7 of the Office Action mailed August 20, 2008. Applicant's arguments, filed November 20, 2008, have been fully considered but are not persuasive.

Applicant argues that all variants falling within the species of *B. oleracea* and *B. rapa* are claimed and that the methods described in the application do not have limited

applicability to only the specific, exact lines used by Applicant (see page 7, last paragraph to page 8, lines 1-7 of 'Remarks' filed November 20, 2008).

This is not persuasive. There is not a precise description for the claimed genetic material. The specification teaches that there are many kinds of *B. oleracea* plants (see pages 9-10) and *B. rapa* plants (see, for example, page 1, 2nd paragraph); thus the claims do not describe the genetic material that confers the resistance to clubroot disease that would distinguish the claimed Brassica species. In addition, the claims do not clearly convey that Applicant has invented the subject matter which is claimed because the claims are broadly drawn to any *B. oleracea* plant with multiple resistance to clubroot disease, wherein the resistance is obtained from a clubroot resistant *B. rapa* plant and the resistance to clubroot is monogenic and dominant; but, the specification teaches that Applicant has only invented *B. oleracea* line CFL667 (a broccoli plant) having the claimed resistance (see, for example, page 11, lines 7-10) wherein said *B. oleracea* plant derived its resistance from a *B. rapa* plant (Chinese cabbage variety 'Parkin') (see, for example, page 10, line 7 to page 11, line 6). Furthermore, Applicant has only described in sufficient detail that they were in possession of *B. oleracea* line CFL667 (a broccoli plant) having the claimed resistance (see, for example, page 11, lines 7-10) wherein said *B. oleracea* plant derived its resistance from a *B. rapa* plant (Chinese cabbage variety 'Parkin') (see, for example, page 10, line 7 to page 11, line 6).

See *Vas-Cath Inc. v. Mahurkar* 1991 (CA FC) 19 USPQ2d 1111, 1115, which teaches that the purpose of the written description is for the purpose of warning an innocent purchaser, or other person using a machine, of his infringement of the patent;

and at the same time, of taking from the inventor the means of practicing upon the credulity or the fears of other persons, by pretending that his invention is more than what it really is, or different from its ostensible objects, that the patentee is required to distinguish his invention in his specification.

Applicant argues that the Examiner is seeking to limit the Applicant solely to the lines used in and specifically cited in the specification and that they have invented more than simply line CFL667 and as such should be awarded further protection (see page 8, 1st paragraph of 'Remarks' filed November 20, 2008).

This is not persuasive. There is no evidence in the specification that Applicant has invented more than simply line CFL667. Applicant has possession of a narrow genetic base and is broadly claiming the phenotype. Applicant is in possession of a narrow invention limited to a particular deposited line; however, they are broadly claiming every *B. oleracea* plant that has the phenotype of their plant. This is paramount to selecting a seed line for high yield and then claiming every seed line that has high yield, regardless of how they are made. It would be like selecting a seed line for its color and then claiming every seed that happens to have that characteristic regardless of how it was derived.

Applicant argues that the specification teaches the production of multiple variants of *B. oleracea* with the monogenic and dominant clubroot resistance from *B. rapa* is described (see page 8, last paragraph to page 9, lines 1-8 of 'Remarks' filed November 20, 2008).

This is not persuasive. The claims do not recite any of the multiple variants cited in the specification and there is no evidence in the specification that Applicant was in possession of the multiple variants.

Applicant argues that claim 53 specifically notes the source of resistance as Chinese cabbage F1 hybrid 'Parkin' and thus, with this source identified, it is clear what *B. rapa* plant is contemplated and that any person of skill in the art would be able to successfully create multiple variants of resistant *B. oleraceas* through the use of 'Parkin' as a source (see page 9, 1st paragraph of 'Remarks' filed November 20, 2008).

This is not persuasive. Applicant has only described in sufficient detail that they were in possession of *B. oleracea* line CFL667 having the claimed resistance (see, for example, page 11, lines 7-10) wherein said *B. oleracea* plant derived its resistance from the Chinese cabbage variety 'Parkin'.

Claim Rejections - 35 USC § 112, first paragraph - Enablement

7. Claims 1-8, 10, 11, 17-24, 46-49 and 51-53 remain rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for *B. oleracea* line CFL667 (a broccoli plant) having the claimed resistance wherein said *B. oleracea* plant derived its resistance from a *B. rapa* plant (Chinese cabbage variety 'Parkin'), does not reasonably provide enablement for every *B. oleracea* plant having multiple pathotype resistance to clubroot disease, wherein the resistance is obtained from any clubroot resistant *B. rapa* plant and the resistance to clubroot is monogenic and dominant, as is broadly claimed. The specification does not enable any person

skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims. The rejection is maintained for the reasons of record as set forth on pages 7-10 of the Office Action mailed August 20, 2008. Applicant's arguments, filed November 20, 2008, have been fully considered but are not persuasive.

Applicant argues that the specification clearly enables a person of ordinary skill in the art to make and use the claimed invention because the specification provides specific guidance using Chinese cabbage 'Parkin' as an example of a source for the monogenic and dominant resistance in *B. rapa* and that any that any monogenic and dominantly clubroot resistant *B. rapa* plant that is resistant to multiple clubroot races could be used as a source for the resistance (see page 10, 1st paragraph of 'Remarks' filed November 20, 2008).

This is not persuasive. The instant claims are not drawn to a *B. oleracea* plant resistant to multiple pathotypes of clubroot disease using Chinese cabbage 'Parkin'. The specification only teaches one skilled in the art how to make and use *B. oleracea* line CFL667 having the claimed resistance wherein said *B. oleracea* plant derived its resistance from Chinese cabbage variety 'Parkin'.

Applicant argues that the resistance, once introgressed into one *B. oleracea* plant, is able to be transferred to any *B. oleracea* background through a simple backcross method (see page 10, 2nd paragraph of 'Remarks' filed November 20, 2008).

This is not persuasive. The specification only provides guidance for making and using *B. oleracea* line CFL667 (a broccoli plant) having the claimed resistance wherein

said *B. oleracea* plant derived its resistance from Chinese cabbage variety 'Parkin'. In addition, the state of the prior art, as evidenced by page 1, 2nd paragraph of the specification, teaches that *B. rapa* and *B. oleracea* do not have the same number of chromosomes and are therefore not sexually compatible; thus, it would require undue trial and error experimentation to determine which *B. oleracea* plants can obtain clubroot resistance from *B. rapa* plants.

Applicant argues that the Examiner has also rejected the above claims as obvious and thus the claims should be enabled given the provided specification (see page 10, last paragraph of 'Remarks' filed November 20, 2008).

This is not persuasive. The rejection states that the specification is enabled for *B. oleracea* line CFL667 (a broccoli plant) having the claimed resistance wherein said *B. oleracea* plant derived its resistance from a *B. rapa* plant (Chinese cabbage variety 'Parkin'), but does not reasonably provide enablement for every *B. oleracea* plant having multiple pathotype resistance to clubroot disease, wherein the resistance is obtained from any clubroot resistant *B. rapa* plant and the resistance to clubroot is monogenic and dominant, as is broadly claimed.

8. Claims 10, 53 and 54 remain rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The rejection is maintained for the reasons of record as

set forth on pages 10-11 of the Office Action mailed August 20, 2008. Applicant's arguments, filed November 20, 2008, have been fully considered but are not persuasive.

Applicant argues that with regards to claim 54 and progeny of CFL667, there is no need of any seed deposit other than CFL667 (see page 11, 3rd paragraph of 'Remarks' filed November 20, 2008).

This is not persuasive. The claim cites "or ancestor of said line CFL667". An ancestor reads on material used in the pedigree of line CFL667. For example, an ancestor would be the grandparents of line CFL667 (i.e. the parents of the parents of CFL667). So, though the Examiner agrees, as stated by Applicant, that any person who obtains line CFL667 could cross it with another plant to obtain progeny, the Examiner does not see how any person could obtain CFL667 and obtain its ancestors.

Applicant further states, see 4th paragraph of 'Remarks' filed November 20, 2008, line 'Parkin' is currently publicly available from Takii Seeds in Japan, thus no deposit is necessary; however, Applicant will move forward to obtain the required allotment of seed for deposit of 'Parkin'.

It is noted that a deposit of 'Parkin' seed is necessary because it is unclear if said seed is actually publicly available. See *Ex parte Humphreys* 24 USPQ2d 1255, 1259 (BdPatApp&Int, 1992) which teaches that the ability of others to obtain material from a third party prior to and after the filing date of an application does not establish that upon issuance of a patent on such application that such material will continue to be accessible to the public.

Claim Rejections - 35 USC § 103

9. Claims 1-5, 7, 8, 11, 17-24, 46 and 47 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Chiang et al (Euphytica 32: 479-483, 1983), in view of Kuginuki et al (European Journal of Plant Pathology 105: 327-332, 1999), further in view of Landry et al (Genome 35(3): 409-420, 1992). The rejection is maintained for the reasons of record as set forth on pages 11-15 of the Office Action mailed August 20, 2008. Applicant's arguments, filed November 20, 2008 have been fully considered but are not persuasive.

Applicant argues that the amended claims make note that the clubroot resistant *B. oleracea* plant must be resistant to multiple pathotypes of clubroot disease and thereby the *B. rapa* plant from which the resistance is obtained must also be resistant to multiple pathotypes of clubroot disease; thus, the amendment renders the rejection based on the cited references moot (see page 12, 2nd and 3rd paragraphs of 'Remarks' filed November 20, 2008).

This is not persuasive. Though Chiang et al teach a *B. oleracea* plant resistant to clubroot disease, wherein the resistance is obtained from a clubroot resistant *B. napus* plant and the resistance to clubroot is monogenic and dominant (see, for example, page 482, 1st paragraph where it states, "the inheritance of resistance to...the clubroot pathogen is controlled by a single dominant gene...[and] the monogenic dominant

inheritance found in this study indicates that this single gene is located on a chromosome in the 'a1' genome"), it would have been obvious to one of ordinary skill in the art that resistance to multiple pathotypes can also be obtained from a clubroot *B. rapa* plant because Kuginuki et al teach "[t]he response of the differential hosts suggests that there are several major [clubroot resistant] genes in *B. rapa*" (see page 327, Abstract).

Applicant argues that while the Kuginuki et al reference discloses a clubroot resistant *B. rapa* plant, it does not disclose a *B. rapa* plant with resistance to multiple pathotypes of clubroot disease because it was impossible for them to classify the pathotypes (see page 12, last paragraph to page 13, lines 1-5 of 'Remarks' filed November 20, 2008).

This is not persuasive. Even if Kuginuki et al did have difficulty in classifying the pathotypes, they do teach four populations with clear differences in pathogenicity were identified and it would have been obvious to one of ordinary skill in the art that there are multiple pathotypes of clubroot disease.

Applicant argues that the creation of a *B. oleracea* plant with resistance to clubroot from a *B. rapa* plant is entirely different than a similar resistance brought in from *B. napus* and is by no means obvious and that a cross for stable introgression between the AA and CC genomes cannot be done without embryo rescue techniques (see page 13, 1st paragraph page 14, lines 1-3 of 'Remarks' filed November 20, 2008).

This is not persuasive. Chiang et al teach that the successful transfer of a single dominant gene responsible for resistance to clubroot from *B. napus* to *B. oleracea*

should be extremely useful in producing commercial F1 hybrids in cole crops (see page 482, last paragraph) and the techniques used in the art to introgress genes into other genomes would have been obvious to one of ordinary skill in the art, including embryo rescue techniques. In addition, Landry et al teach a cross between *B. napus* and *B. oleracea* (see, for example, page 416, Figure 5).

Applicant argues that the dependent claims are not obvious and thus will not argue all points made by the Examiner against the dependent claims; however, Applicant points out that the Landry et al reference does not support the teaching of monogenic and dominant resistance to clubroot (see page 14, 2nd paragraph of 'Remarks' filed November 20, 2008).

This is not persuasive. The rejection is maintained for the dependent claims for reasons of record as set forth on pages 13-15 of the Office Action mailed August 20, 2008. Regarding the Landry et al reference teaching of monogenic and dominant resistance to clubroot, it is noted that the Chiang et al reference teaches monogenic and dominant resistance to clubroot, as discussed above.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KEITH O. ROBINSON whose telephone number is (571)272-2918. The examiner can normally be reached Monday – Friday, 7:30 a.m. - 4:30 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached at (571) 272-0975. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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Keith O. Robinson

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Primary Examiner, Art Unit 1638